



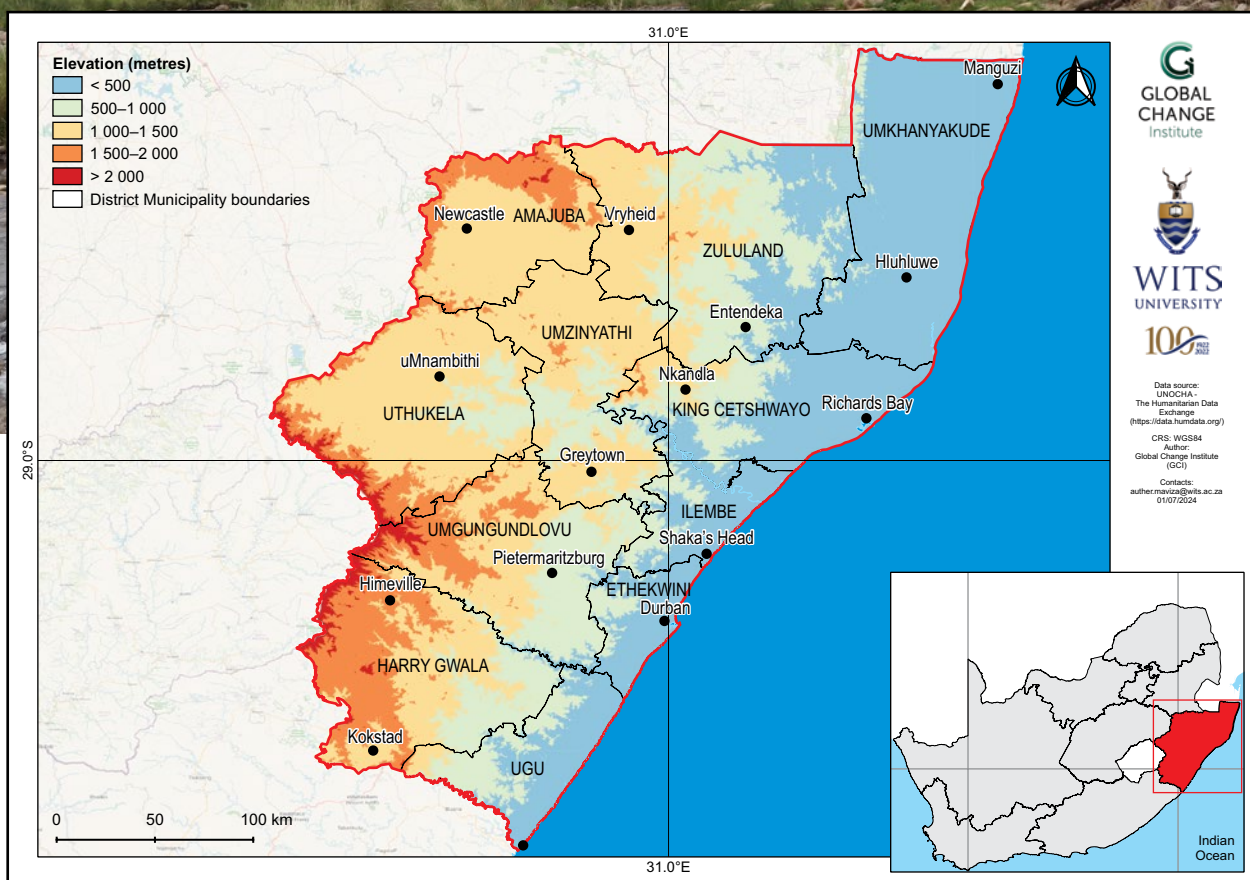
KwaZulu-Natal climate change fact sheet

South Africa

PROVINCIAL

Introduction

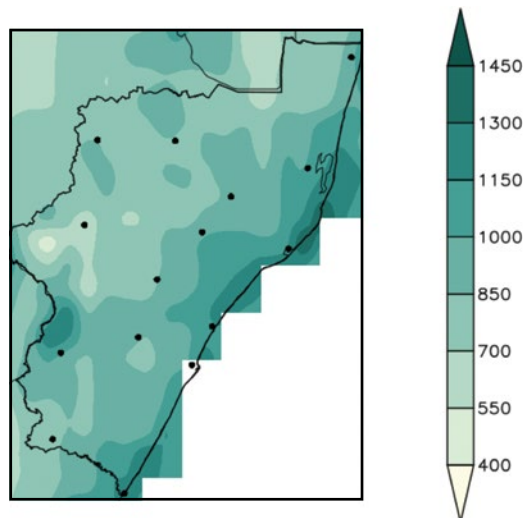
- This fact sheet is part of a series of province municipality fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over province municipalities in South Africa. They should be used together with the guidelines presented in the cover page.
- KwaZulu-Natal covers an area of approximately 94 361 km², with elevation ranging from sea level along its Indian Ocean coastline, increasing through the undulating hilly central Midlands to over 3 450 m above sea level in the Drakensberg to the west.
- The province experiences a varied climate due to its diverse topography. Coastal areas have a subtropical climate with hot, humid summers and mild winters; midlands are temperate with warm summers and cooler winters, while higher elevations have a cool to alpine climate with higher summer rainfall (mostly from thunderstorms).



Observed climate: rainfall (1981–2000)

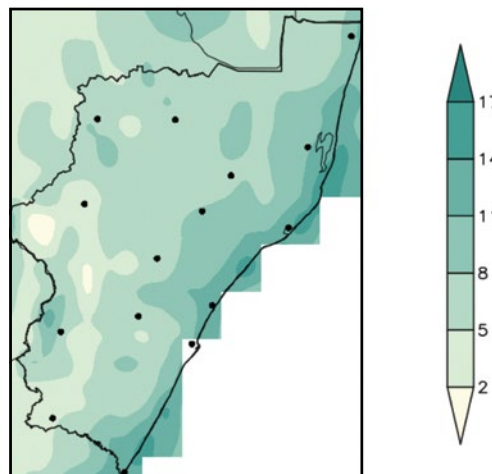
Mean annual rainfall

Mean annual rainfall ranges from about 600 mm over the western interior parts to over 1 000 mm over the east coast and escarpment areas east of Lesotho.



Extreme rainfall days

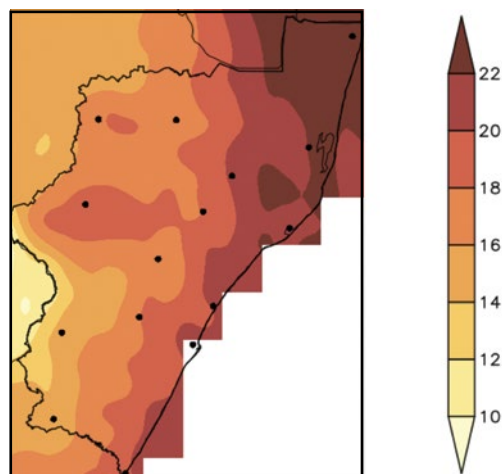
Observed average annual number of extreme rainfall days range from less than 5 days over parts of the interior to more than 11 days over the coastal regions.



Observed climate: temperature (1981–2000)

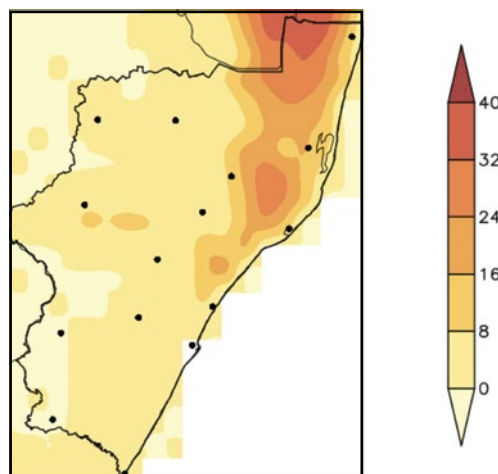
Mean annual temperature

Mean annual temperature ranges from 12 °C over the escarpment areas east of Lesotho to more than 22 °C over the coast in the north.



Very hot days

Mean annual number of very hot days range from 0 days over the escarpment east of Lesotho to more than 24 days over the northern interior.

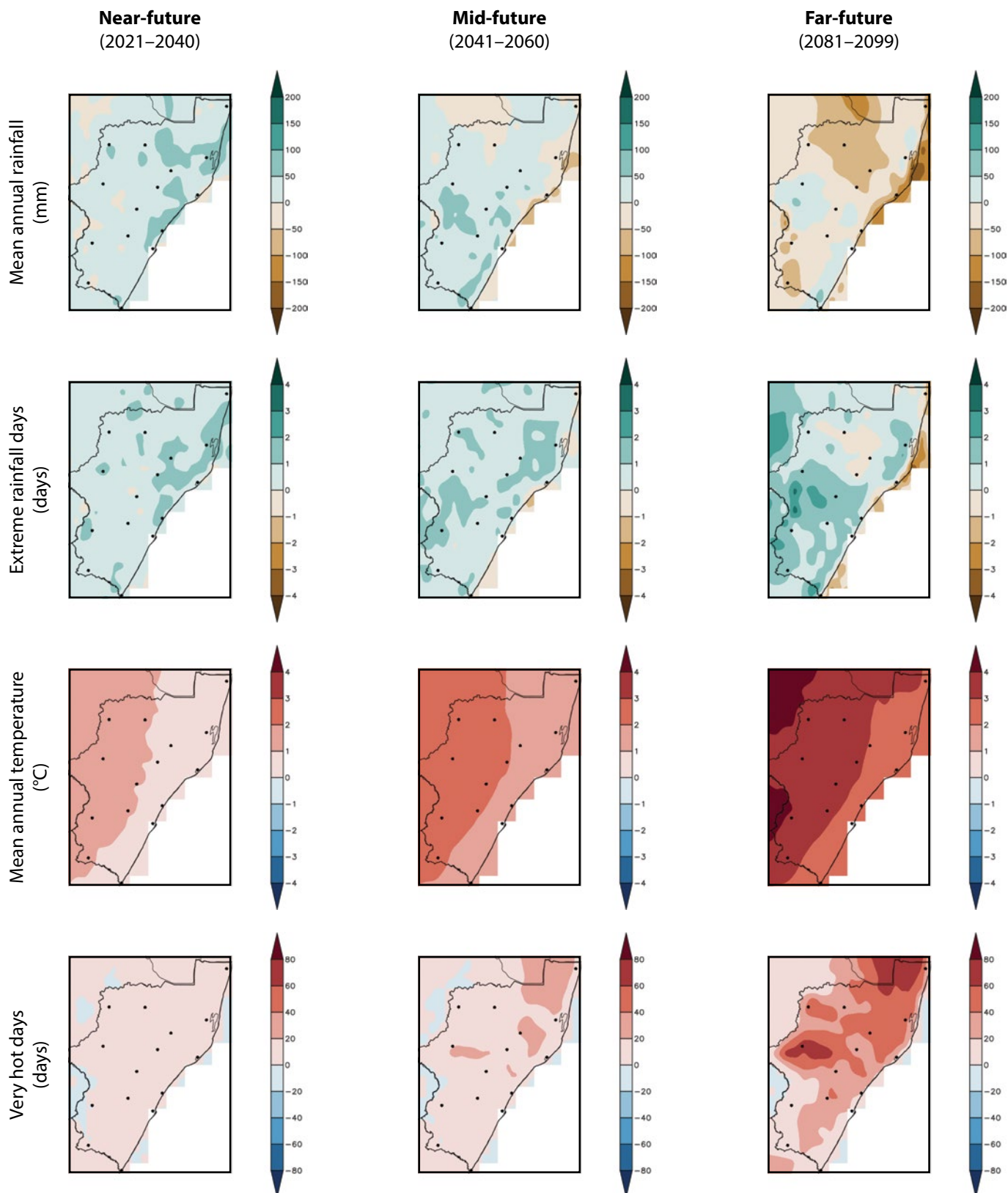


Observed climate trends (overview)

- Observed decrease in mean annual rainfall (*low confidence*).
- Observed increase in the frequency of extreme rainfall events (*high confidence*).
- Observed increase in mean annual temperature and warm extremes (*virtually certain*).
- Observed increases in meteorological and agricultural drought (*low confidence*).

Projected future climate change (overview)

- Projected increase in mean annual rainfall in the near- and mid-future (*low confidence*), but with decreases in the far-future (*low confidence*).
- Projected general increase in the frequency of extreme rainfall events (*high confidence*).
- Projected increase in mean annual temperature and warm extremes (*virtually certain*); decrease in cold extremes (*high confidence*).
- Projected increase in agricultural and meteorological drought in the near- and mid-future (*low confidence*) and far-future (*medium confidence*).



Projected future climate change (*detailed*)

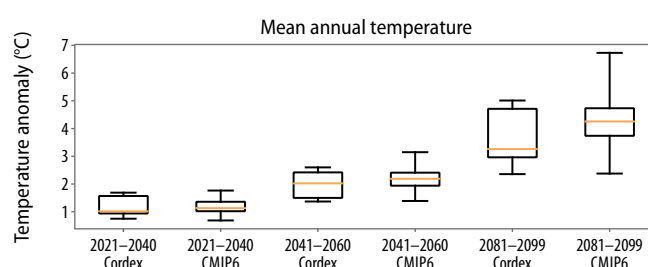
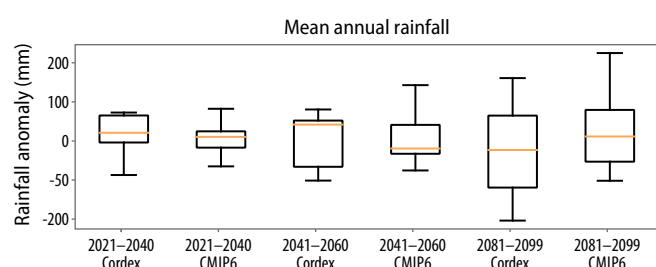
Near- and mid-future

- Projected increase in rainfall (*more likely than not*).
- Projected increase in extreme rainfall events (*very likely*).
- Projected increase in temperature and warm extremes (*virtually certain*); decrease in cold extremes (*very likely*).
- Projected increase in agricultural and meteorological drought (*low confidence*).

Far-future

- Projected general decrease in rainfall (*more likely than not*).
- Projected increase in extreme rainfall events (*very likely*).
- Projected increase in temperature and warm extremes (*virtually certain*); decrease in cold extremes (*very likely*).
- Projected increase in agricultural and meteorological drought (*medium confidence*).

Climate model projections: model agreement and uncertainties



Mean annual rainfall

- Averaged across the province, rainfall is projected to increase in the near- and mid-future (*low confidence*).
- General rainfall decreases are projected for the far-future under low mitigation scenarios (*low confidence*).
- Partially in response to *virtually certain* temperature increases, agricultural drought is to occur more frequently in the near- and mid-future (*low confidence*) and far-future (*medium confidence*).

Mean annual temperature

- Temperature increases averaged across the province in the near-future are *virtually certain* and may be as high as 1.5 °C.
- Under low mitigation, further temperature increases are *virtually certain* and may approach 2.5 °C in the mid-future and 5.0 °C in the far-future.
- Increases in average temperature will be accompanied by increases in warm temperature extremes such as heatwaves and high fire danger days (*virtually certain*).

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Contact

- Global Change Institute (GCI), University of the Witwatersrand, Johannesburg, South Africa. Website: www.wits.ac.za/gci
- South African National Biodiversity Institute (SANBI). Website: www.sanbi.org